BERT PARSONS BRIDGE
Spanning the Fisher River at West Fisher Drive
Cornell Vicinity
Chippewa County
Wisconsin

HAER No. WI-74

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Department of the Interior
Denver, Colorado 80225-0287

HISTORIC AMERICAN ENGINEERING RECORD

BERT PARSONS BRIDGE

Location:	Spanning the Fisher River at West Fisher Drive, Cornell Vicinity, Chippewa County, Wisconsin
Quad:	Cornell, Wisconsin
UTM:	15:647130:5005770
Date of Construction:	1914
Present Owner:	Town of Estella
Present Use:	Vehicular highway bridge, scheduled for replacement in the near future
Significance:	The Bert Parsons Bridge is an excellent example of a steel, rigid-connected, Pratt through truss designed by the Wisconsin State Highway Commission. Constructed in 1914, it is one of the first bridges of its type in Wisconsin built according to a standardized state plan. In its design and material, the Bert Parsons Bridge exemplifies a once common bridge type. As one of the few remaining structures of this type, the bridge has been declared eligible for the National Register of Historic Places.
Historians:	Chad J. Perkins and Charlene K. Roise Hess, Roise and Company, Minneapolis, Minnesota October 1994

Situated in Estella Township in northeastern Chippewa County, the Bert Parsons Bridge carries a paved, township-owned road, known as West Fisher Drive, across the Fisher River, which empties into the Chippewa River about two miles downstream from the crossing (Figure 1). The bridge stands in a forested area, about one mile north of the City of Cornell and two miles southwest of the City of Holcombe. Fisher Drive is sometimes referred to as "the shortcut" between Cornell and Holcombe because it forms a more direct, although more serpentine, route than the more heavily traveled County Road 29 to the east.[1] Bert Parsons Bridge occupies the largest bend in the road. Crossing the river on an approximately northwest-southeast axis, it reorients Fisher Drive from an east-west direction on the south to a north-south direction on the north. For simplicity's sake, the following description posits a north-south alignment for the bridge.[2]

Designed by the Wisconsin State Highway Commission (SHC), the Bert Parsons Bridge is a steel, six-panel, rigid-connected, through Pratt truss, measuring 90 feet in length with a total "out-to-out" width of 18 feet.[3] Its roadway width is 15 feet, 7 inches. At the time of its completion in 1914, the SHC permitted either bolting or riveting for its rigid-connected truss

[1]See the photograph caption in Scrapbook #1, Cornell Public Library, Cornell, WI: "Four typical small farms on the short cut to Holcombe east of Cornell."

[2]This description is based on a field inspection of the bridge conducted by Jeffrey A. Hess on 24 October 1993.

[3]The Bert Parsons Bridge embodies standard superstructure plan "A12" for 90-foot through Pratt trusses; see Bridge Card for P-9-113, Bridge Department, Wisconsin Department of Transportation, Madison, WI.

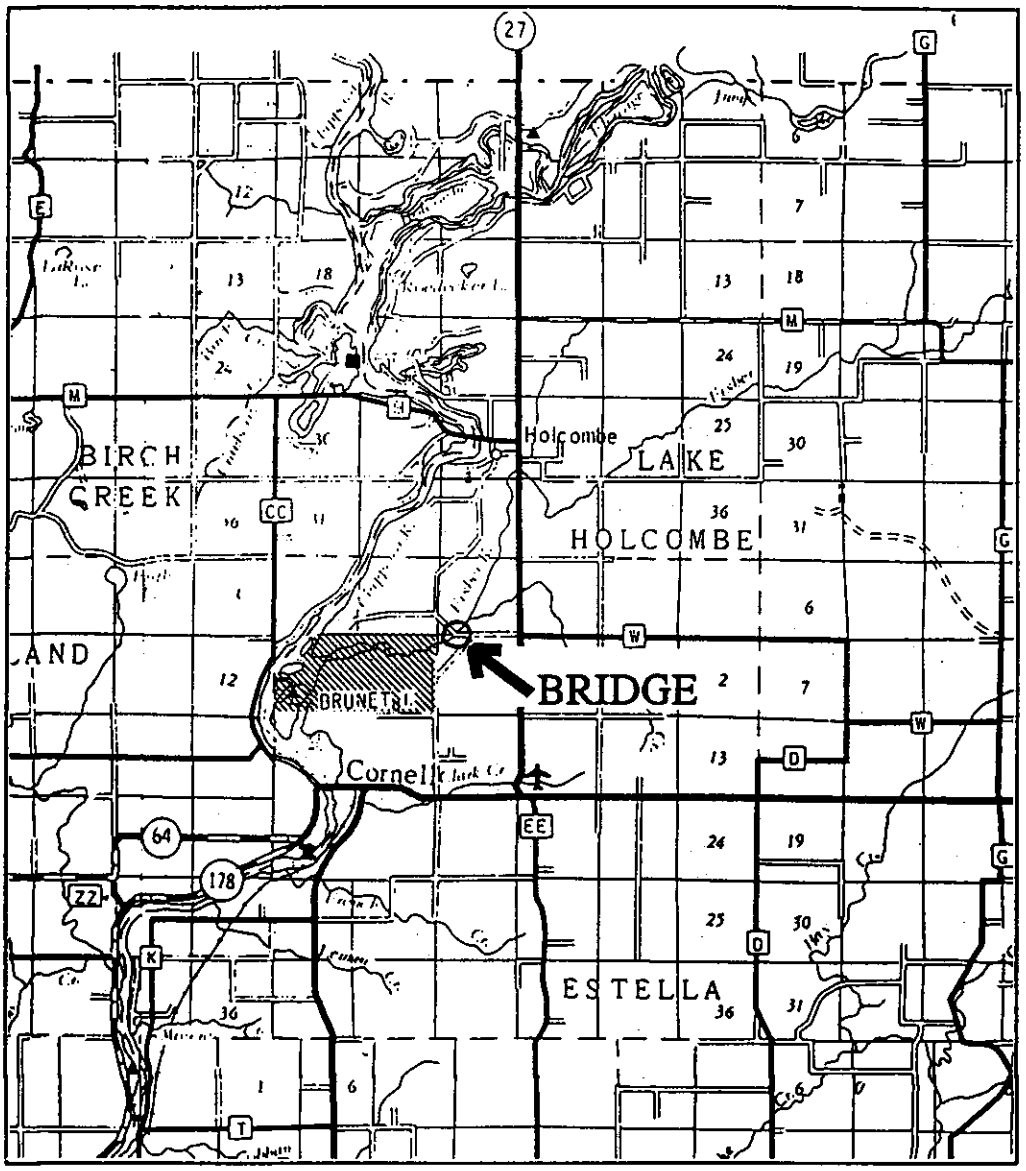

Figure 1: Location of Bert Parsons Bridge, Estella Twp., Chippewa Co., Wisconsin
Scale: 1" = Approx. 2.3 miles

designs.[4] The Bert Parsons Bridge has bolted, panel-point connections.

The bridge's structural members consist of standard, rolled, steel components, configured according to standard SHC specifications of the period. End posts are paired channel sections tied by a cover plate and single lacing. All vertical members are single-laced, paired channel sections, while all diagonal members are paired angle sections. The lower chord also consists of paired angle sections. Lateral bracing -- both top and bottom -- employs crossed, single angle sections bolted to a stay plate at their point of intersection. Paired, back-to-back angle sections form portal and overhead sway bracing.

The bridge deck is reinforced concrete with integral curbing bordering the roadway. The deck rests on rolled, I-beam stringers supported by rolled, I-beam floor beams bolted to panel-point hangar plates below the level of the lower chord. The steel railing on each side of the roadway consists of angle-section posts with channel-section rails. Like the superstructure, the bridge's substructure embodies a standard SHC design featuring reinforced-concrete abutments with flared, sloped wing walls. In the summer of 1979, the base of each abutment was encased in a poured-concrete scour guard.[5] The only other noticeable change to the bridge's original

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[4]The date of the bridge's construction is based on the following source: Chippewa County Board of Supervisors' Minutes, 20 May 1914, Chippewa County Auditor's Office, Chippewa County Courthouse, Chippewa Falls, WI. On bolting and riveting, see Hans Nelson Brue, "The Development of Highway Bridges in Wisconsin," Civil Engineering Thesis, University of Wisconsin, 1916, 22.

[5]See the SHC standard abutment plan in Brue, 42. The date of the abutment work is based on a graffiti inscription of "8-8-79" in the concrete of the south scour guard.

construction is the severe deterioration of the concrete curbing on the west side of the roadway.

Constructed in 1914 according to a standardized plan of the SHC, the Bert Parsons Bridge has been determined eligible for the National Register, under Criterion C, for its statewide significance in the area of engineering, by virtue of embodying the distinctive characteristics of a type, period, and method of construction. Based on the historic context for iron and steel highway bridges presented in Cultural Resource Management in Wisconsin (Volume 2), the bridge is an excellent representative example of SHC standardized design for rigid-connected, through Pratt trusses during the period 1911 to 1925.[6] During these years, the commission took on the duty of designing all highway bridges in the state according to standardized plans. While the SHC promoted concrete bridges for short spans, it generally favored steel, rigid-connected, through Pratt trusses for spans of 80 to 150 feet. The SHC's early, through Pratt designs were characterized by the use of standard steel angle and channel sections riveted together to form the truss web. While the construction was heavier than bridges designed earlier by independent bridge companies, it was not nearly as heavy and substantial as construction during the following period, from 1926 to 1931, when the SHC specified larger-section steel members. Although once the most common type of steel bridge in Wisconsin, through Pratt trusses are now fairly rare, most having been replaced. Unaltered and in excellent condition, the Bert Parsons Bridge exemplifies the type of through Pratt truss design adopted by the SHC before 1926.

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[6]Cultural Resource Management in Wisconsin: A Manual for Historic Properties (Historic Preservation Division, State Historical Society of Wisconsin, June 1986), vol. 2, transportation section 12, 12, 14, 15.

The Bert Parsons Bridge stands on one of the oldest public highways in northeastern Chippewa County. According to a county atlas published in 1888, the road was in place by that date. It came to a dead end about two miles north of the bridge site at a small logging community, later known as Holcombe, located at the Little Falls Dam on the Chippewa River. South of the bridge site, the road traveled east and south about four miles to the area's main settlement of Estella, which boasted a country store and post office. The only bridge between Estella and the Little Falls Dam was at the Fisher River, just upstream from its confluence with the Chippewa River. Neither the date of the first bridge, nor the nature of its construction, are known, although the 1888 atlas locates the river crossing about one-quarter mile downstream from the site of the Bert Parsons Bridge. This crossing remained in use until its replacement by the Bert Parsons Bridge in 1914.[7]

Like most of the Chippewa River Valley, the Fisher River area originally was blanketed by merchantable white pine. One of the largest landowners was Cornell University of Ithaca, New York. During the mid-1860s, the university's main benefactor, Ezra Cornell, had acquired vast tracts of Chippewa Valley pinelands as an endowment for the institution. Although the university sold most of its holdings to logging companies by the early 1890s, it retained ownership of about 2,000 acres in the vicinity of Brunet Falls, a rapids in the Chippewa River

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[7]For the location of the earlier crossing of the Fisher River, see Plat Book of Chippewa County Wisconsin (Minneapolis: C.M. Foote and Co., 1888), 42; S.A. Carpenter and William N. Hebert, Atlas of Chippewa County, 1913 (Chippewa Falls, WI: Gailloux and Harris, 1913), 9. The early importance of Estella is noted in "A History of the Paper Industry at Cornell," 1963, 1, in folder labeled "Paper Mill -- Cornell," Cornell Public Library, Cornell, WI.

located about one mile downstream from the mouth of the Fisher River. Here Ezra Cornell had hoped to establish a model waterpower manufacturing center.[8]

Although planning for the Brunet Falls development ceased with Cornell's death in 1874, Cornell University kept the land for several decades, apparently out of respect for its founder's wishes. Finally, in 1902, the university sold its Brunet Falls acreage to a private development company, organized under Wisconsin law as the Cornell Land and Power Company (CLPC). The company's purchase coincided with, and may well have been inspired by, the construction of a branch rail line through the area by the Omaha Road.[9]

The CLPC's goal was to build a paper plant on the east side of the Chippewa River at Brunet Falls, using the Chippewa's power for energy and pulpwood from the surrounding forest for raw material. In 1903, the state legislature granted the CLPC permission to build a waterpower dam at the falls, and two years later, the company filed a plat for its future mill town, henceforth to be known as Cornell. The dam and adjacent paper mill were not completed until about 1913. By that time, the development already had changed ownership, and within a year, it would do so again, coming into the possession of the Cornell Wood Products Company, which changed

[8]A full discussion of the Cornell pinelands is in Paul Wallace Gates, The Wisconsin Pinelands of Cornell University (Ithaca, NY: Cornell University Press, 1943); on Brunet Falls, see especially 209-210. The university's ownership of individual parcels at the falls is recorded in Plat Book of Chippewa County (1888), 42.

[9]Gates, 241-242; "A History of the Paper Industry at Cornell," 3.

the product line from paper to wood-fiber wallboard.[10]

Although the new mill went through a period of financial uncertainty, it eventually gave steady employment to over a hundred workers. Cornell became the area's principal city, completely eclipsing the older community of Estella. With the increase in population, the surrounding countryside experienced a number of improvements. In 1914, for example, the Town of Holcombe, in which Cornell was located, voted to construct or repair at least four highway bridges within a three-mile radius of Cornell.[11]

The most expensive of these projects was a new, steel-truss bridge across the Fisher River, estimated at $2,400. The bridge was a replacement for an earlier crossing, located about one-quarter mile downstream. As mandated by state law, the expense was to be shared equally by the town and county, with the SHC providing the bridge plans. In petitioning the county for its half of the cost, the town officials identified the proposed structure as "the Bert Parsons Bridge located about 40 rods east of the northwest corner of Section 9 . . . where the Fischer [sic] Creek crosses the old Estella Road."[12] As was common at the time, the bridge took its name

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[10]For a chronology of ownership for both the water rights and mill, see the following document, which apparently was prepared for legal purposes: "Exhibit 'Q': Statement of Project History and Method of Financing," in folder labeled "Paper Mill – Cornell," Cornell Public Library, Cornell, WI. In this same folder are brief histories of the paper/woodboard plant.

[11]Chippewa County Board of Supervisors' Minutes, 20 May 1914, Chippewa County Auditor's Office, Chippewa County Courthouse, Chippewa Falls, WI.

[12]Supervisors' Minutes, 20 May 1914; see Minutes, 21 May 1914, for the Supervisors' approval of the town's petition. At the time of its construction, the Bert Parsons Bridge was located in the southern half of the Town of Holcombe (later Lake Holcombe). In 1921, this area split off to form the Town of Estella, the current custodian

from a nearby landowner, in this case a member of the Parsons family, which had resided in Section 9 since 1873.[13] County records do not mention any unusual circumstances concerning the bridge's construction, and the project presumably was completed before the end of 1914.[14]

Constructed in 1914, the Bert Parsons Bridge is an excellent example of the earliest phase of the SHC's program to create a uniform system of highway bridge construction in Wisconsin. This program began in 1911, when the SHC prepared a series of standardized bridge plans for use in projects receiving state and county financial sid. For spans of 80 to 150 feet in length, such as the Bert Parsons Bridge, the SHC mandated "through Pratt Truss Bridges, with reinforced concrete floors" and a roadway width of at least 16 feet.[15]

Although the first standardized truss plans included both pin-connected and rigid-connected Pratt designs, the SHC soon phased out the former, so that by 1916 a close observer of SHC practice

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of the Bert Parsons Bridge.

[13]For biographical information on the Parsons family, see Standard Atlas of Chippewa County Wisconsin (Chicago: Geo. A. Ogle and Co., 1920), 64.

[14]The county supervisors' minutes do not identify a manufacturer or contractor for the Bert Parsons Bridge. Such information can occasionally be obtained from county vouchers, but such records have not survived (Jeffrey A. Hess, Interview with Chippewa County Treasurer's Office staff, 24 October 1993). Nor are there extant township records or local newspaper files for the period of the bridge's construction (Hess, Telephone Interview with Newspaper Archives Staff, State Historical Society of Wisconsin, 25 October 1993; Hess, Telephone Interview with Darlene Leiuthi, Lake Holcombe Town Clerk, 24 October 1993; Hess, Telephone Interview with Mrs. Marlin Briggs, Estella Town Clerk, 20 October 1993).

[15]Second Biennial Report of the Wisconsin Highway Commission, July 1, 1911, to January 1, 1915 (Madison, WI: Published by the State, 1915), 24.

could remark that "the use of pin connected trusses has been completely abandoned."[16] This development reflected a growing consensus among American engineers that rigid-connected trusses were sturdier, especially for short spans, because they were less prone to vibration under live load.[17] For its rigid-connected designs, the SHC permitted either riveting or bolting of field connections.[18] The Bert Parsons Bridge offers an example of field bolting.

As noted in the historic highway-bridge context presented in Cultural Resource Management in Wisconsin, the SHC's standardized, through-Pratt truss designs fall into three general chronological categories: an early period (1911-1925) characterized by the use of relatively light steel sections for built-up compression and tension members; a middle period (1926-1931) which saw the use of somewhat heavier components for built-up compression and tension members; and a late period (1931-1936) which replaced built-up truss members with solid, rolled sections.[19]

In 1981, the Wisconsin Historic Bridge Advisory Committee (HBAC) identified at least 49 through Pratt trusses representing the early period (1911-1925) of SHC standardized design. Of this group, the HBAC selected two bridges on the basis of their representative qualities for

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[16]Hans Nelson Brue, "The Development of Highway Bridges in Wisconsin," Civil Engineering Thesis, University of Wisconsin, 1916, 32.

[17]See, for example, F.C. Kunz, Design of Steel Bridges (New York: McGraw-Hill Book Company, Inc., 1915), 170.

[18]Brue, 22.

[19]Cultural Resource Management in Wisconsin, vol. 2, transportation section 12, 12-16.

National Register status: the 112-foot Blomberg Road Bridge (P57-068), erected in 1914, and the 90-foot Leedel Mill Road Bridge (P53-066), erected in 1916. By the summer of 1993, bridge-replacement projects had claimed the majority of the "early-period" bridges, leaving only 14 in place. This number has been reduced even further by the loss of the Blomberg Road Bridge, which received HAER documentation as mitigation prior to its demolition.[20] Built in the same year as the Blomberg Road Bridge and of comparable span length, the Bert Parsons Bridge is equally significant as an excellent representative example of the SHC's early, rigid-connected, Pratt through truss, standardized plan. Despite eight decades of service, the bridge retains all essential details of its original design. The bridge has been determined eligible for the National Register of Historic Places under Criterion C, for embodying "the distinctive characteristics of a type, period, or method of construction."[21]

The Bert Parsons Bridge is scheduled for replacement. This Historic American Engineering Record study has been completed as part of the Federal Highway Administration's responsibility under Section 106 of the National Historic Preservation Act of 1966 and Section 4(f) of the Federal Highway Code.

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[20]The statistics on through Pratt truss attrition were compiled from: Cultural Resource Management in Wisconsin, vol. 2, transportation section 12, 6; "Extant Pratt Overhead Trusses, 1911-1925, Sorted by Date of Construction," 18 June 1993, in WisDOT Staff Historian's Office, Madison, WI. The Blomberg Road Bridge is documented as HAER No. WI-66.

[21]National Register Bulletin 16A: How to Complete the National Register Registration Form (Washington, D.C.: National Register Branch, Interagency Resources Division, National Park Service, U.S. Department of the Interior, 1991), 36.

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